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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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04/15/2004

Thomas Henkel

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EXAMINER

SHIN, CHRISTOPHER B

ART UNIT

PAPER NUMBER

2181

DATE MAILED: 09/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/825,473	HENKEL, THOMAS	
	Examiner	Art Unit	
	Christopher B. Shin	2181	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>20040415</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 22-23 are rejected under 35 U.S.C. 101 because the claimed subject matter lacks Practical Application where the claimed method is a form of a program/method on a data carrier that is not necessarily run on a computer/produce practical application.

Drawings

2. The drawings are objected to because the drawing figures do not have proper label (i.e., each reference box should have name/labels such as sequencer, arbitration unit, etc). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an

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application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-18 & 21-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- i. In claim 1;

The body of the claims does not support the preamble of the claims and also unclear as how the preamble is functionally & structurally interconnected with the limitations of the claim in terms of supporting tester or testing.

- ii. In claims 11-12 & 21, it is unclear as to what the numeral with parenthesis represents & why the parenthesis exists on the these claims only.

- iii. In claim 18, the Random Access Memory lacks proper antecedent basis, and the claim 18 fails to further limit from the parent claim 16.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 22-23 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Harriman et al. (6,092,158).

In figures 2-3 and the respective descriptive sections teach all the limitations of the claims; therefore, the claims 22-23 are clearly anticipated by the teachings of the Harriman. See the following rejections details of claim 1.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harriman et al. (6,092,158).

a. In figures 2-3 and the respective descriptive sections teaches all of the basic claimed limitations as follows:

Claims 1-9, 11-18 Harriman et al. (6,092,158)

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- A shared storage
 - (210)
- At least one buffer, preferably a FIFO buffer, that is adapted for buffering one or more of the incoming and outgoing data streams
 - (308-328)
- An arbitration unit adapted for controlling accesses to the shared storage, said arbitration unit comprising:
 - (322-330)
- A set of interface adapted for connecting a plurality of units with said arbitration unit,
 - (308-328)
- wherein outgoing data streams are transmitted from the arbitration unit via respective ones of said interfaces to at least one of said units, and
 - (330, 322, 316, 320, 332, 310, 312, 302, 304)
- wherein incoming data streams are transmitted from at least one of said units via respective ones of said interfaces to the arbitration unit
 - (308, 318, 320, 324, 326, 330)
- plurality of units
 - (215) – bus agents
- A control logic that is connected to each of said interfaces, said control unit being adapted for segmenting write data of incoming data streams in order to set up write accesses to said shared storage, and for distributing read data obtained during said read accesses to outgoing data streams
 - (200)
- wherein at least one of said units is adapted for transmitting at least one of write requests or read requests to the storage unit, wherein at least one write request indicates a start address and size of the data block that is to be written to said shared storage, and wherein at least one read request indicates a start address and a size of the data block that is to be read from said shared storage
 - well known read/write memory access technique in the memory accessing art
- wherein said control logic is adapted for scheduling said read & write accesses based on priorities that are assigned to at least some of the various interfaces, or to at least some of the various incoming and outgoing data streams
 - (306-328)
- wherein said control logic is adapted for considering a low latency of an incoming or outgoing data stream by assigned a corresponding high priority to the respective data stream
 - (306-328)
- wherein said control logic is adapted for modifying said priorities in a way that the amount of switching from write to read, or vice versa, is kept small
 - (306-328)
- wherein said control logic is adapted for modifying said priorities in a way that a continuous transmission of at least one of said data streams is promoted

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- (306-328)
- wherein said control logic is adapted for modifying said priorities in a way that the higher the fill level of a buffer gets, the higher the priority of the corresponding buffered data stream will become
 - (306-326)
- wherein at least one of said units represents at least one of ...an interface module adapted for establishing a data link between the channel and a central facility...
 - obvious feature of (215)
- wherein said storage unit is adapted for transmitting outgoing data streams to said sequencer, said outgoing data streams comprising at least one of instructions and sequencer data
 - obvious feature of (215)
- wherein said control logic is adapted for assigning a high priority to an outgoing data stream that comprises instructions for said sequencer
 - obvious feature of Read data output to (215)
- wherein storage unit is adapted for receiving an incoming data stream from said result processing unit, said incoming data stream comprising result data that is to be written to said shared storage
 - obvious feature of (200) input/output to and from bus agents (215, 205, 225)
- wherein said storage unit is adapted for exchanging data streams with said interface module, wherein a high priority is assigned to said data streams
 - data exchange between (200) and (205, 215, 225)
- wherein said shared storage is a DRAM
 - obvious feature of (210), see column 3, lines 16-19
- further comprising a memory maintenance unit adapted for providing maintenance requests to said shared storage
 - well known feature in the industry

b. As for claims 1-3, 5-16 & 18, the main difference between the claimed invention and the teachings of the Harriman reference is that the Harriman reference does not expressly uses the memory controller of figure 2 in a tester channel or a testing environment; however, the Harriman reference does teach all of the basic equivalent function of storage accessing system/technique of the claimed invention. In addition, at the time of the invention, the memory accessing technique is one of the most basic required and commonly practiced applications in the art of computing (e.g., testing or not testing environment).

Furthermore, testing environment requires data accessing technique as well as non-testing environment; it would have been obvious at the time the invention was made to one having ordinary skill in the art to come up with the claimed invention from the teachings of Harriman for the reasons stated above.

a. As for claims 4 & 17 further disclose limitations that are not expressly disclosed by the Harriman reference, but such laminations (e.g., block transfer & maintenance requests) are also well-known type and choice of operations/techniques in the art; therefore, one skilled in the art can easily substitute or add the above limitations to Harriman reference to come up with the claimed invention for well known motive of better efficiency in data accessing.

Allowable Subject Matter

9. Claims 19-21 are allowed.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher B. Shin whose telephone number is 571-272-4159. The examiner can normally be reached on 6:30-5:00 M,Tu,Th,F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fritz Fleming can be reached on 571-272-4145. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CHRISTOPHER SHIN
PRIMARY EXAMINER
OF 2181

August 25, 2006
cbs

A handwritten signature in black ink, appearing to read 'Ch Shin', with a long horizontal flourish extending to the right.